Amendments to the Specification:

Please add the following new paragraph after paragraph [11]:

[11.1] The present invention additionally provides a method for varying the impedance of a motor by varying the phase angle difference between the two inverter terminals to which each motor phase is connected. The process of varying the phase angle difference comprises receiving a signal indicating a requirement to vary the impedance of the motor and varying the phase angle difference substantially in accordance with this requirement.

Please replace paragraph [35] with the following amended paragraph:

[35] Of particular value are machines connected such that the fundamental, or lowest pole count, operation is associated with a relative phase angle across any given winding of nearly, but not exactly, 120 degrees. In these cases, altering the output of the inverter by changing the absolute phase angles by a multiplicative factor of three, which may also be described as operation with the third harmonic will result in the relative phase angle across any given winding becoming very small, and causing large winding currents to flow with low inverter currents. A particular example would be a 34 slot, 17 phase machine, wound with full span, concentrated windings, to produce a two pole rotating field. The winding terminations are connected to the inverter using the S=5 mesh. The relative phase angle of the inverter outputs placed across any given winding would be 127 degrees, and the voltage placed across this winding relative to the inverter output voltage is 1.79 times the inverter output voltage. If the machine is then operated with a third harmonic waveform, it will operate as a six pole machine. The relative phase angle across any given winding is now 127*3mod 360= 21 degrees, and the voltage placed across the winding relative to the inverter output voltage is 0.37 times the inverter output voltage. Simply by changing the inverter drive angles, the Volts/Hertz relationship, or impedance, of the motor is increased, and inverter limited overload capability is enhanced. Thus the impedance of the motor may be increased by decreasing the phase angle difference between the windings, and the impedance of the motor may be likewise decreased by increasing the phase angle difference between the windings. Varying the phase angle difference between the windings may be achieved by switching the drive waveform from a fundamental frequency output to a harmonic.

Please replace paragraph [38] with the following amended paragraph:

[38] The general principal of the present invention may be utilized for the operation of high phase order induction machines including motors, generators, and motor/generators, and may also be utilized for different loads which require variable frequency supply, e.g. induction heating applications. Also, saturation of single harmonics are not required, and an exceedingly variable impedance may be produced by the gradual and increasing superimposition of harmonic content, for example, of the third harmonic. Thus, where N is an odd number, the variable impedance may be achieved by varying the phase angle difference across the windings by superimposing one or more harmonics on the primary drive waveform of the inverter, to a required degree of superimposition. The variable impedance may also be achieved by varying the phase angle difference across the windings by providing increasing proportions of one or more odd order harmonics.

Please amend the Abstract of the Disclosure as follows:

A high phase order induction machine drive system is disclosed. This has an inverter system for the synthesis of a plurality of phases of alternating current output, and a N-phase induction motor (N is greater than 3). The inverter system has N terminals, numbered from 1 to N. ~~The~~ Each motor phase is electrically connected to ~~the~~ a pair of inverter terminals. One connection is made ~~so that each motor phase is electrically connected~~ to a first inverter terminal and the other connection is made to a second inverter terminal ~~S + 1 inverter terminals distant from the first inverter terminal in order of electrical phase angle (~~. The number of inverter terminals (in order of electrical phase angle) between the first terminal and the second terminal is S + 1, where S is the skip number~~)~~. The phase angle difference between the pair of inverter terminals to which each motor phase is connected is identical for each motor phase.